NSRL ARR Second Meeting

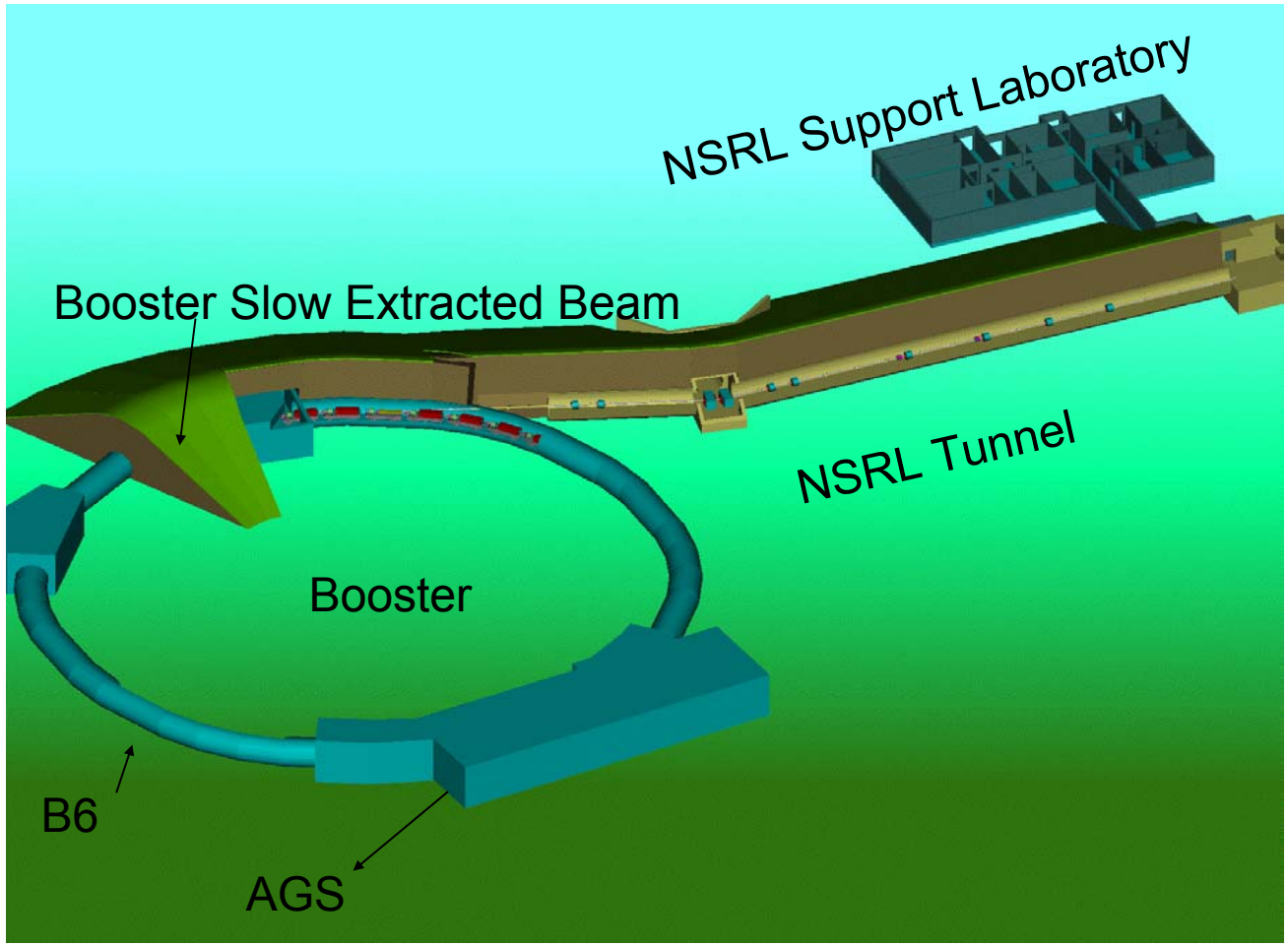
Commissioning Experimental Equipment for NSRL

March 24, 2003

Second Module Mission, 4-1 and 4-15-03

- Heavy ions or protons transported to target
- Experimental equipment and procedures tested

Plan View of NSRL



DOE Accelerator Safety Guide

ARR will verify readiness to proceed with experimental equipment commissioning

- ARR should confirm construction is **sufficiently complete**
- **Necessary** construction tests have been performed and accepted
- **Required** safety-related systems are installed and operational
- **Relevant** procedures have been approved
- **Appropriate** personnel have been assigned and adequately trained

Generic Items Readied for ARR

- Procedures
- Administrative controls
- Personnel training and qualification
- Engineered safety systems
- Specific facilities and sub-systems

Module 2 Details

- Beam travels the 100-m beam line to the NSRL beam dump
- Experimental target receives beam for fault study
- Some experimental laboratory operations are ready
  - Fire protection system
  - Ventilation system
  - Lab spaces

- Module 2 approval is needed by April 1, 2003

Module 2.5 Details

- Remaining Laboratory utilities / equipment
  - Incubators
  - Hoods
  - Water Purification System
  - Ice machine
  - Vacuum system for Lab
  - Microscopes
- Dosimetry system
  - Detectors
  - Electronics
  - Controls to limit beam

- Module 2.5 approval is needed by April 15, 2003

Specific Safety Systems to be Commissioned

- Target Room ventilation system
- Experimental Support Building fire protection system
- Experimental Support Building ventilation system
- Modifications to Access Control System

Specific Facilities to be Commissioned

- Experimental Support Building (B958):
  - Laboratory space
- The beam line tunnel (B956):
  - Target Room
  - Beam stop

Specific Sub-Systems to be Commissioned

- Target (2)
- Experimental Support Building utilities (2 and 2.5)
- Experimental equipment (2 and 2.5)
- Dosimetry detectors and electronics (2.5)
- Dosimetry control / communication with the MCR(2.5)

Construction Status

"Construction is **sufficiently complete**, **necessary** construction tests have been performed and accepted"

- Dave Phillips will discuss Experimental Support Building
- Adam Rusek will discuss dosimetry system, target and dump
- Betsy Sutherland will discuss laboratory equipment

NSRL ATS Status

- C-A-QA 524 - BAF - Tasks required for commissioning
- C-A-QA 1127 - BAF Commissioning Plan, February 15, 2002
- C-A-QA 1291 - BAF ARR Phase 1 Commissioning

- Dave Passarello is contact

Access Control System Status

"**Required** safety-related systems are installed and operational"

- Asher Etkin will discuss modifications to ACS

Procedure Status

"**Relevant** procedures have been approved"

- Emergency procedure complete (P. Cirnigliaro is contact)
- Fault Study Plan (A. Rusek is contact)
- *"Experimental"* Work Plan (P. Cirnigliaro is contact)
- RSC Check-Off List (D. Beavis is contact)
- ESRC Check-off List (Y. Makdisi is contact)
- Appropriate operations procedures
- ASSRC Check-Off List
- Accelerator Safety Envelope
- Sweep procedures

Training and Qualifications Status

"**Appropriate** personnel have been assigned and adequately trained"

- Radiation Worker 1 Training (TLD)
  - Status: Staff maintains on an ongoing basis
- C-A Dept Access Training / Radiobiology User Training
  - Status: Staff and Users maintain on an ongoing basis
- Main Control Room (MCR) Operator Training on OPMs
  - Status: NSRL operating procedures and training completed
- Review (and sign-off) of current Standing RWP for Radiation Areas
  - Status: Staff maintains on an ongoing basis
- Registration (scanning the iris) for Iris Reader Access
  - Status: Procedure completed, registration as required
- John Maraviglia is contact

Next Steps

- Individual meetings
- Tour